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I hereby certify that this correspondence, totaling 28 pages including recited attachments, is being facsimile transmitted to the United States Patent and Trademark Office at facsimile no.: 1-571-273-8300 on the below date:
Date: JANUARY 27, 2006 Name: David W. Okey, Reg. No. 42,958 Signature: [Signature]

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& LIONE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Appln. of: David et al.
Appln. No.: 09/851,849
Filed: May 9, 2001
For: Router Apparatus

Examiner: Erica E. Cadugan
Art Unit: 3722

Attorney Docket No: 10420/12

Mail Stop Appeal Brief
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL

Sir:

Attached is/are:

- ☒ Response to Notice of Non-Compliance and Supplemental Appeal Brief
☐ Return Receipt Postcard

Fee calculation:

- ☒ No additional fee is required.
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	Claims Remaining After Amendment		Highest No. Previously Paid For	Present Extra	Small Entity		or	Not a Small Entity	
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Indep.	4	Minus	4		x \$3=			x \$6=	
First Presentation of Multiple Dep. Claim					+\$145=			+\$290=	
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☒ The Director is hereby authorized to charge payment of any additional filing fees required under 37 CFR § 1.16 and any patent application processing fees under 37 CFR § 1.17 associated with this paper (including any extension fee required to ensure that this paper is timely filed), or to credit any overpayment, to Deposit Account No. 23-1925.

Respectfully submitted,

Date Jan 27, 2006
January 27, 2006

[Signature]
David W. Okey (Reg. No. 42,958)

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on January 27, 2006

Date of Deposit

David W. Okey, Reg. No. 42,959

Name of applicant, assignee or
Registered Representative

David W. Okey

Signature

JAN 27, 2006
Date of Signature

Our Case No. 10420/12

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: David et al.)	
Serial No. 09/851,849)	
Filing Date: May 9, 2001)	Examiner: Erica E. Cadugan
For: Router Apparatus)	Group Art Unit No. 3722

RESPONSE TO NOTICE OF NON-COMPLIANCE WITH 37 CFR 41.37(c)

Mail Stop Appeal Brief
Commissioner for Patents
Post Office Box 1450
Alexandria, VA 22313-1450


Dear Sir or Madam:

In response to the Notice mailed on January 20, 2006, Applicant is concurrently re-sending via facsimile the Appeal Brief filed properly on September 27, 2004. As the Examiner notes in the Notice, a page was skipped in transmitting the Appeal Brief via facsimile. Applicant, on the same date and at the same time, re-transmitted the Appeal Brief, which was transmitted in its entirety. The results may be seen in the IFW portion of PAIR. The document description column for September 27, 2004, shows both a 20 page and a 21 page Appeal Brief. The discrepancy is the missing page.

09/851,849
10420/12
Notice of Non-compliance mailed January 20, 2006
Response transmitted January 27, 2006

Nevertheless, Applicants are herewith re-transmitting the complete Appeal Brief, with all appendices, per the Notice. Applicants request the Office to call the undersigned attorney in a timely manner if any irregularity occurs.

Respectfully submitted,



David W. Okey
Reg. No. 42,959
Attorney for Applicants

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(312) 321-4200

JAN 27 2006

CERTIFICATE OF FACSIMILE TRANSMISSION UNDER 37 C.F.R. §1.8

I hereby certify that this correspondence, totaling 25 pages including rected attachments, is being facsimile transmitted to the United States Patent and Trademark Office at facsimile no.: 703-872-8308 (Central number) on the below date:

Date: September 27, 2004 Name: David W. Okey, Reg. No. 42,959 Signature: David W. Okey

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& LIONE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Appln. of: David et al.
Appln. No.: 09/851,849
Filed: May 9, 2001
For: Router Apparatus

Examiner: Erica E. Cadugan
Art Unit: 3722

Attorney Docket No: 10420/12

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL

Sir:

Attached is/are:

- ☒ Supplemental Appeal Brief
☐ Return Receipt Postcard

Fee calculation:

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☐ An extension fee in an amount of \$_____ for a _____-month extension of time under 37 C.F.R. § 1.136(a).
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	Claims Remaining After Amendment		Highest No. Previously Paid For	Present Extra	Small Entity		or	Not a Small Entity	
					Rate	Add'l Fee		Rate	Add'l Fee
Total	25	Minus	25		x \$9=			x \$18=	
Indep.	4	Minus	4		x \$4=			x \$88=	
First Presentation of Multiple Dep. Claim					+\$145=			+\$290=	
Total					\$		Total		\$

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☒ The Director is hereby authorized to charge payment of any additional filing fees required under 37 CFR § 1.16 and any patent application processing fees under 37 CFR § 1.17 associated with this paper (including any extension fee required to ensure that this paper is timely filed), or to credit any overpayment, to Deposit Account No. 23-1925.

Date

27 Sept 2001

Respectfully submitted,

David W. Okey (Reg. No. 42,959)

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JAN 27 2006

I hereby certify that this correspondence is being sent via facsimile to 1-703-872-9306 to the United States Patent Office

on Monday, September 27, 2004

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David W. Okey

Name of appellants, assignee or
Registered Representative

Signature _____

Date of Signature _____

Our Case No. 10420/12

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: David et al.

Serial No. 09/851,849

Filing Date: May 9, 2001

For: Router Apparatus

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)
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) Examiner: Erica E. Cadugan
)
) Group Art Unit No. 3722
)
)
)

SUPPLEMENTAL APPEAL BRIEF

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sirs:

In accordance with the final rejection of all pending claims mailed on June 25, 2004, and in conformance with the instructions in the rejection for reinstating the appeal of the present application, Appellants request reinstatement of the appeal and have filed this supplemental brief. Because this brief is timely filed, and because a notice of appeal and an appeal brief were previously filed in this case, no fees are believed to be due. This brief is in compliance with the new format specified in 37 C.F.R. § 41.37.

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This is a reinstatement of an appeal, the present appeal being from the final rejection of all claims in the Office Action mailed on June 25, 2004, for the present application. This supplemental brief is timely filed within three months of the final rejection.

I. Real Party in Interest

The real party in interest is the assignee, United Air Lines, Inc.

II. Related Appeals and Interferences

There are no related appeals or interferences that would affect, be affected by, or have a bearing upon, the Board's decision in the present appeal in this application.

III. Status of Claims

Claims 1-25 are pending in this application. Claims 12, 15-17 and 20-21 are finally rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Pat. No. 5,533,845 to John Glover. Claims 12, 17 and 20 are finally rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Pat. No. 5,106,243 to Christopher Hunt. Claims 13 and 19 are rejected under 35 U.S.C. § 103(a) as being obvious over either U.S. Pat. No. 5,533,845 to John Glover or U.S. Pat. No. 5,106,243 to Christopher Hunt, as applied to Claim 12. Claim 17 and 18 are rejected under 35 U.S.C. § 103(a) as being obvious over either U.S. Pat. No. 5,533,845 to John Glover or U.S. Pat. No. 5,106,243 to Christopher Hunt, and further in view of U.S. Pat. No. 3,133,339 to Thomas Ribich. Claims 1-5, 7-11, 14, and 22-25 are finally rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 5,533,845 to John Glover, and further in view of either U.S. Pat. No. 5,503,203 to Ase Stornetta or U.S. Pat. No. 3,387,383 to Kenneth Ko. Claims 5 and 6 are finally rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Pat. No. 5,533,845 to John Glover, and further in view of Stornetta, Ko and Ribich.

All rejected claims, Claim 1-25, are appealed in this supplemental brief.

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IV. Status of Amendments

The last Amendment filed in this case was mailed by Appellants on March 26, 2004, in response to a non-final rejection mailed on January 29, 2004. The Amendment was entered. No other amendments are pending.

V. Summary of Claimed Subject Matter

The invention relates to a router apparatus for removing strips of sheet metal, such as aircraft skin laps. The description in this "summary" is intentionally narrower and more concise than the summary of the invention given in the patent application, the invention being defined in the claims of the application. The purpose of the summary presented here is to allow the Board to quickly focus on the invention and how it is distinguished from the prior art cited.

The router apparatus is best seen in Figs. 6-8 of the present application. Router apparatus 70 includes a guide 62, mounted to the aircraft skin with a fastener 58. The guide may be a piece of nylon or plastic with a controlled height or thickness, and may have a profiled cross-section. Mounted movably atop guide 62 is a platform or trolley 64, suitable for mounting a router 60. Router 60 has gripping handles 78, speed adjustment 76, typically for adjusting the flow of air from pneumatic connection 80 to an air motor internal to the router. The flow adjustment adjusts the speed of the router, rpm, depending on the drilling/ milling tool 82 used, the material to be cut and its thickness, and the speed with which the operator propels the router along the guide. An electric router may alternately use an electrical method to control router tool speed, such as a DC motor or a controlled AC motor. Specification, p. 6, lines 2-14.

In one embodiment, the router also has a mechanism for adjusting the height of the cutting tool, namely a vertical adjustment screw 73 and a height adjustment nut 75. The screw mates with the height adjustment nut 75. Locking nut or jam nut 74 enables the operator to maintain the desired setting. The external surfaces of the adjustment screw and jam nut may be knurled for easier tightening and loosening.

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Using a large outer diameter of several inches for these components helps to insure that hand-tightening alone by an operator is sufficient to prevent loosening during router operation. A height indicator may also be added for easy referral by the operator. Specification, p. 5, lines 15-25. Using the vertical settings, and with a known thickness of a guide for the platform, the operator has complete and precise control over the depth of cut to make into the aircraft skin. In this manner, the router makes no accidental cuts into the stringers, tear straps, or other structural members of the aircraft. Specification, p. 6, lines 25-29.

In one embodiment, the router travels along the guide as propelled by the operator. In other embodiments, the router trolley may be outfitted with a device to drive the trolley along the length of the aircraft, such as a small motor. The router itself does not travel, but rather the platform 64 to which the router is attached. The platform may also be equipped with bearings 66 for easier movement of the platform along the guide 62. Specification, p. 5, line 30, to p. 6, line 5.

Router apparatus 70 and router 60 may be equipped with a vacuum attachment 84 via a fitting 86 on the platform 64, for instantaneous removal of chips and debris generated during the removal of the skin portions, forming a gap 88 between the aircraft skin and the overlap to be removed. The platform may also be equipped with a terminal block 90 for connection to a regulated supply of air 92, and for connection to a pneumatic router air hose 80. The connections may be quick-disconnects or permanent fittings as desired. The supply of air may be any suitable supply, such as shop air or bottled gas. Specification, p. 6, lines 6-14.

Fasteners 58 firmly mount track 62 to aircraft skin 50. Bearings 66 contained within the platform 64 help for easy maneuvering of the platform along the track during cutting operations. Bearings, such as pre-packed anti-friction bearings, may be used for interfacing platform 64 with guide 62. Guide 62 may be profiled for easier movement of the router platform along the guide, and the internal portion of the platform, with four bearings, to match. In this embodiment, the track is profiled and the router actually rests atop the track, the platform 64 suspended just above the skin of the aircraft to prevent any damage from contact with the aircraft skin. In

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operation, the operator positions himself or herself on the near side of the router apparatus, grasps the handles 78, and cuts the overlap from the skin of the aircraft. Specification, p. 6, lines 15-26.

When a cut is complete, the operator makes another cut in a return path on the opposite side of the guide, in order to remove the desired 3 or 4 inches of skin overlap. In one embodiment, the platform and router may be removed from the guide, turned 180 degrees, and the return cut made. The router 70 may be removed from the platform 64, along with vacuum fitting 86 and with debris hose 84, and re-positioned on the platform. In this embodiment, the platform itself need not be removed from the guide in order for the re-configured router apparatus to make the return cut on the other side of the guide. This reconfiguring is easier if the platform has an extra through-orifice 94, for the cutting tool to access the aircraft skin. Specification, p. 6, line 27, to p. 7, line 5.

There are no means + function or step + function elements in the claims.

VI. Grounds of Rejection to be Reviewed on Appeal

The issues on appeal are as follows: 1) whether there is error in the final rejection of Claims 12, 15-17 and 20-21 as being unpatentable under 35 U.S.C. § 103(a) over U.S. Pat. No. 5,533,845 to John Glover; 2) whether there is error in the final rejection of Claims 12, 17 and 20 as being obvious over U.S. Pat. No. 5,106,243 to Christopher Hunt; 3) whether there is error in the final rejection of Claims 13 and 19 as being unpatentable over either Hunt or Glover in view of U.S. Pat. No. 4,599,018 to Quentin Woods; 4) whether there is error in the final rejection of Claims 17 and 18 as being unpatentable over Glover or Hunt in view of U.S. Pat. No. 3,133,330 to Thomas Ribich; 5) whether there is error in the final rejection of Claims 1-5, 7-11, 14, and 22-25 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 5,533,845 to Glover in view of U.S. Pat. No. 5,503,203 to Ase Stornetta or U.S. Pat. No. 3,837,383 to Kenneth Ko; and 6) whether there is error in the final rejection of Claims 5 and 6 as being unpatentable over Glover in view of Stornetta or Ko, and further in view of Ribich.

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VII. Argument

Appellants request that the Board reverse the rejection of all claims in the application, for at least the reason that the references do not teach or suggest all the limitations of the claims. Additional arguments may also be presented in the separate headings below; each claim presented in a separate heading is meant to be considered separately. In summary, the rejections herein are duplications of the rejections made prior to the previous appeal. The additional reference, U.S. Pat. No. 5,533,845, to John Glover, does not describe or suggest many of the limitations of the claims, and does not add weight to the references previously cited and still cited in the present rejections.

a. Claims 12, 15-17, and 20-21, rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Pat. No. 5,533,845 to John Glover ("Glover")

Claim 12

Claims 12, 15-17, and 20-21 are rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Pat. No. 5,533,845 to John Glover ("Glover"). The rejection states that Glover teaches a portable milling machine, the spindle of which is considered a 'router' having a milling bit 61 attached to a frame 12, which is considered the claimed 'platform', in which frame 12 is moved in the generally left/right direction shown in the top portion of Figure 1 along a 'guide' track, located within subframe 30 which is affixed to the workpiece 10 via fasteners drilled into the workpiece. Office Action, p. 3, line 21, to p. 4, line 5. The rejection of at least Claim 12 is improper because Glover does not teach or suggest a guide fastened to sheet metal by fasteners drilled through the sheet metal, nor does Glover teach or suggest a router as claimed.

i. Glover does not teach a guide fastened to the sheet metal by fasteners drilled through the sheet metal.

The rejection admits that while Glover teaches fasteners that penetrate into the workpiece, Glover is silent concerning whether fasteners are drilled "through" the workpiece. Office Action, p. 4, lines 14-17. Thus, the Office Action admits that Glover

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does not describe or suggest the claim limitation of "a guide, fastened to the sheet metal by fasteners drilled through the sheet metal." This claim element requires a guide and fasteners drilled **through** the sheet metal (emphasis added). The rejection states that "through" means "extending from one surface to another." Office Action, p. 4, lines 16-17, citing Merriam-Webster's Collegiate Dictionary, 10th ed.

It makes no difference whether Glover's device would work with fasteners drilled through the workpiece, it only matters for obviousness what Glover teaches, discloses or suggests. *In re Novak*, 16 U.S.P.Q. 2043, 2044 (Fed. Cir. 1990) (unpublished opinion, stating that obviousness must be determined in light of what is taught or suggested by the prior art). Even if one were to construe the workpiece of Glover as sheet metal, Figs. 1, 4, and 16 clearly show that Glover's platform 30 is mounted to the workpiece via corresponding attachment sites 33, very thick bosses, such that fasteners through holes 32 and bosses 33 are not drilled through workpiece 10. As the rejection itself admits, Glover does not teach that the fasteners penetrate through the holes and bosses, and thus through a "sheet metal" workpiece from one surface to the opposite surface, as required by Claim 12. Furthermore, citing Glover in this manner is impermissible hindsight, combining the present invention with a reference in order to find the claimed application obvious. *In re Deuel*, 34 U.S.P.Q.2d 1210 (Fed. Cir. 1995) (reversing rejections for obviousness because of the use of impermissible hindsight). Glover does not describe or suggest at least this limitation of Claim 12.

ii. Glover does not teach a router

Another limitation of Claim 12 is a router. Glover is entitled, "milling machine." The rejection states that the spindle of the milling machine is considered a "router." Office Action, p. 3, line 21. One definition of a spindle is a horizontal or vertical axis revolving on pin or pivot ends. Merriam-Webster's Collegiate Dictionary, 10th ed. at 1132-33. Thus, machine tools such as milling machines, drills and routers have a spindle to hold a cutting tool, while a lathe has a spindle to turn the workpiece. A spindle is not a router, but rather is part of a router or a milling machine. As shown and discussed below, the Office Action cites other prior art that shows exactly what a

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router is, e.g., U.S. Pat. No. 5,503,203 to Ase Stornetta ("Stornetta"). A spindle of a milling machine is not a router, and Glover does not teach or suggest a router.

A rejection of claims over a combination of elements disclosed in the prior art must be based on the *specific* combination that was made by the applicant. In re Kotzab, 55 U.S.P.Q.2d 1313, 1316 (Fed. Cir. 2000) (emphasis added). Therefore, the rejection of Claim 12 does not make out a prima facie case of obviousness, because Glover does not teach a router or a guide, fastened to the sheet metal by fasteners drilled through the sheet metal. M.P.E.P. 2143. The final rejection of independent Claim 12 under 35 U.S.C. § 103(a) is error. Appellants request the Board to reverse the rejection under 35 U.S.C. § 103(a) of Claim 12 over Glover.

Claim 15

Claim 15 is also rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Pat. No. 5,533,845 to John Glover ("Glover"). Claim 15 recites that the router is selected from the group consisting of a pneumatic router and an electric router. The rejection states that Glover specifically teaches that the tool is pneumatically operated. Office Action, p. 4, lines 6-7. Glover does not teach a router, Glover teaches a milling machine, as admitted in the Office Action, p. 3, line 21. A router is a different type of machine tool, as shown in another patent cited in this case, U.S. Pat. No. 5,503,203 to Ase Stornetta ("Stornetta"). Note, for instance, Fig. 1, depicting a router, and the text at col. 1, describing a router and its operation. Stornetta, col. 1, lines 18-24. The admitted router of Stornetta is vastly different from the milling machine of Glover, as shown at Fig. 1 of Glover.

The rejection under Glover offers no rationale for stating that a spindle for a milling machine is a "router." As noted above, the references cited in the rejections alone make it clear that a milling machine is not a router. Accordingly, Glover does not teach a router, and therefore does not teach an electric or a pneumatic router as required by Claim 15.

The title of Glover's patent is "milling machine," and the Office Action admits that Glover teaches a milling machine. Office Action, p. 3, line 21. The rejection

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further argues, however, that Glover is a "router" because Glover meets one definition of router, i.e., "a machine with a revolving vertical spindle and cutter for milling out the surface of wood or metal." Office Action, p. 15, lines 3-6. This definition would also meet the definition of a milling machine, as is well-known to those having skill in the art. A router implies some amount of portability and convenience, as well as a single degree of freedom, as shown in the references which specifically mention routers. For example, Ko discusses conventional portable routers and depicts a router mounted to a table and used with a template so that the operator can guide the router around the template to cut the desired pattern in a door. Ko, col. 5, lines 42-51.

The portability of the router gives the operator the freedom to make the desired cut using the single degree of freedom, or height adjustment, in Applicants' invention. Embodiments of the Applicants' invention use a special guide and platform to take advantage of the portability of the router to make a long cut. When the rejection states that "the router of Applicant's own invention has more than a single degree of freedom," Office Action, p. 15, lines 8-12, the rejection uses Applicants' own invention against them, which is impermissible hindsight. *In re Deuel*, 34 U.S.P.Q.2d 1210 (Fed. Cir. 1995) (reversing rejections for obviousness because of the use of impermissible hindsight).

Glover does not describe or suggest at least this limitation of Claim 15, which is therefore not obvious over Glover. Therefore, the rejection does not make out a prima facie case of obviousness. M.P.E.P. 2143. The final rejection of dependent Claim 15 under 35 U.S.C. § 103(a) is error. Appellants request the Board to reverse the rejection under 35 U.S.C. § 103(a) of Claim 15 over Glover.

Claim 16

Claim 16 is also under 35 U.S.C. § 103(a) as being obvious over U.S. Pat. No. 5,533,845 to John Glover ("Glover"). Claim 16 recites that the router has a speed adjustment. The rejection states that Glover specifically teaches a speed adjustment. Office Action, p. 4, lines 8-9. As noted above, Glover does not teach a

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router, Glover teaches a milling machine, as admitted in the Office Action at p. 3, line 20. Therefore, Glover does not teach a router having a speed adjustment.

Glover does not describe or suggest at least this limitation of Claim 16, which is therefore not obvious over Glover. Therefore, the rejection does not make out a prima facie case of obviousness. M.P.E.P. 2143. The final rejection of dependent Claim 16 under 35 U.S.C. § 103(a) is error. Appellants request the Board to reverse the rejection under 35 U.S.C. § 103(a) of Claim 16 over Glover.

Claim 17

Claim 17 is also under 35 U.S.C. § 103(a) as being obvious over U.S. Pat. No. 5,533,845 to John Glover ("Glover"). The rejection of Claim 17 under Glover does not cite any specific passage for the claim limitation of an end mill attached to the router. Therefore, the rejection does not make out a prima facie case of obviousness. The final rejection of dependent Claim 17 under 35 U.S.C. § 103(a) is error. Appellants request the Board to reverse the rejection under 35 U.S.C. § 103(a) of Claim 17 over Glover.

Claim 20

Claim 20 is also rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Pat. No. 5,533,845 to John Glover ("Glover"). Claim 20 recites that there is at least one bearing mounted on the platform and interfacing with the guide. The rejection of Claim 20 under Glover states that platform 12 has a protruding member that mates with the aforescribed guide track of the subframe, see Fig. 5, which member bears against and interfaces with said guide track. Office Action, p. 4, lines 10-12.

The rejection does not state, and Glover does not describe or suggest, that subframe 30 is a "bearing." Applicants have claimed a bearing mounted on the platform and interfacing with the guide. While not importing limitations from the specification, it is clear from Applicants' Fig. 5, numeral 66, that a bearing may be an anti-friction type rotary bearing, for the platform to interface with, so that the platform, and thus the router, can move along the guide. Glover does not suggest

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that subframe 30 has any antifriction or "bearing" qualities. Glover states that his machine includes "an attachment subassembly 30 which includes one or more attachment sites 32 through which subassembly 30 may be secured" to the workpiece. Glover, col. 3, lines 33-36.

Subframe 30 is attached to the workpiece and will not move. Subframe 30 is an interface, but cannot be a bearing mounted on the platform. Glover does not describe or suggest at least this limitation of Claim 20 which is therefore not obvious over Glover. The rejection does not make out a prima facie case of obviousness. The final rejection of Claim 20 under 35 U.S.C. § 103(a) is error. Appellants request the Board to reverse the rejection under 35 U.S.C. § 103(a) of Claim 20 over Glover.

Claim 21

Claim 21 is rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Pat. No. 5,533,845 to John Glover ("Glover"). Claim 21 recites that the router further comprises air fittings attached to the platform for receiving air from an air supply and for delivery air to the router. The rejection cites Glover, Fig. 1 and col. 4, lines 16-32, but makes no other comment. As noted above, Glover teaches a milling machine, not a router, and thus does not teach or describe the router of Claim 21.

Glover does not describe or suggest at least this limitation of Claim 21 which is therefore not obvious over Glover. The rejection thus does not make out a prima facie case of obviousness. The final rejection of Claim 21 under 35 U.S.C. § 103(a) is error. Appellants request the Board to reverse the rejection under 35 U.S.C. § 103(a) of Claim 21 over Glover.

b. Claims 12, 17 and 20, rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Pat. No. 5,106,243 to Christopher Hunt ("Hunt").

Claims 12 and 17

Claims 12 and 17 are rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Pat. No. 5,106,243 to Christopher Hunt ("Hunt"). The rejection states that Hunt teaches a portable milling machine, the spindle of which is considered a

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"router." The rejection notes that the spindle unit is affixed to a movable ram or "platform 26" that moves along a dovetail slide 18 of a bed 12, citing Fig. 1 and col. 2, lines 26-65. The rejection states that the device has a vertical adjustment for adjusting the depth of cut of the milling cutter 68, and also that the bed plate 10 of the guiding device is bolted to a workpiece surface, citing col. 4, lines 18-22.

The rejection admits that Hunt does not describe or suggest fasteners drilled through the sheet metal. Office Action, p. 6, lines 14-15. The rejection also states that Hunt's device will work just as well if fasteners are drilled **through** Hunt's workpiece (emphasis added), and that embodiments of the present invention will work just as well whether the fasteners are drilled **through** the sheet metal (emphasis added), or merely penetrate the "workpiece." Finally, the rejection states that it appears to be a matter of design, the thickness of the "workpiece," as to whether the fasteners are drilled through the sheet metal or merely penetrate.

The rejections are error because Hunt does not teach or suggest several limitations recited in the claims. Hunt fails to disclose at least the Claim 12 limitation of "a guide, fastened to the sheet metal by fasteners drilled through the sheet metal." It makes no difference whether Hunt's device would work as well with fasteners according to the present invention, because Hunt does not describe or suggest "a guide, fastened to the sheet metal by fasteners drilled through the sheet metal." It also does not matter that the present invention might work with fasteners that merely penetrate the sheet metal, rather than fasteners drilled through the sheet metal, depending on workpiece thickness. Appellants have claimed a router apparatus with "a guide, fastened to the sheet metal by fasteners drilled through the sheet metal." Hunt does not describe or suggest at least this limitation of independent Claim 12.

Therefore, the rejection does not make out a prima facie case of obviousness against Claim 12. M.P.E.P. 2143. The final rejection of independent Claim 12, and dependent Claim 17, under 35 U.S.C. § 103(a) is therefore error. The Board is respectfully requested to reverse rejection under 35 U.S.C. § 103(a) of Claims 12 and 17 in view of Hunt.

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Claim 20

Claim 20 is also rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Pat. No. 5,106,243 to Christopher Hunt ("Hunt"). The rejection states that carriage block 24 serves as a "bearing," and citing Fig. 1 of Hunt. Office Action, p. 6, lines 11-12. Applicants have claimed a bearing mounted on the platform and interfacing with the guide. While not importing limitations from the specification, it is clear from Applicants' Fig. 5, numeral 66 that a bearing may be an anti-friction type rotary bearing, for the platform to interface with, so that the platform, and thus the router, can move along the guide. Hunt teaches that carriage block 24 is driven along dovetail slide 18. Hunt, col. 2, lines 44-48.

There is no suggestion that carriage block 24 is a "bearing," as recited in Claim 20. A fairer reading of Hunt with regard to the Claim 20 is that carriage block 24 performs the function of platform 64 in the present application, with bearings 66 mounted on the platform and interfacing with the guide. Hunt does not describe or suggest at least this limitation of Claim 20 which is therefore not obvious over Hunt. The rejection does not make out a prima facie case of obviousness. The final rejection of Claim 20 under 35 U.S.C. § 103(a) in view of Hunt is error. Appellants request the Board to reverse the rejection under 35 U.S.C. § 103(a) of Claim 20 in view of Hunt.

c. Claims 13 and 17-19, rejected under 35 U.S.C. § 103(a) as being unpatentable over either Hunt or Glover as applied to Claim 12

Claims 13 and 17-19

Claims 13 and 19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over either Hunt or Glover as applied to Claim 12. The rejection admits that Hunt and Glover do not teach the limitations of Claim 13, which recites that a vertical height setting may be made within one-thousandth of an inch using the router vertical adjustment. Office Action, p. 8, lines 4-5. The rejection also admits that Hunt and Glover do not teach the limitations of Claim 19, which recites

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that the guide is made from plastic. Claim 19 also recites that the plastic material is formed to a uniform height and width.

The references must disclose or suggest all the limitations of the claim. M.P.E.P. 2143 contains no exceptions for "an obvious matter of design choice." The requirement is that the references disclose all the claim limitations. Applicants freely admit that some embodiments do not incorporate the limitations recited in Claims 13 and 19, but Claims 13 and 19 do incorporate the recited limitations. Since the Office Action admits that the references do not disclose all the limitations, there is no prima facie case of obviousness against Claims 13 and 19. Therefore, the rejection of Claims 13 and 19 under 35 U.S.C. § 103(a) is improper. Claims 17 and 18 depend from allowable claims and are also allowable. The Board is requested to reverse the rejections of Claims 13 and 19 over Hunt and Glover, as well as for Claims 17-18.

d. Claims 1-5, 7-11, and 22-25

Claims 1, 2, 5 and 7-11

Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 5,533,845 to John Glover ("Glover"), as discussed for Claims 12-13 and 15-21 above, and further in view of either U.S. Pat. No. 5,503,203 to Ase Stornetta ("Stornetta") or U.S. Pat. No. 3,837,383 to Kenneth Ko ("Ko"). The rejection states that Glover teaches the aspects of the invention discussed above, and also teaches "grips," i.e., the alignment wheels 18 and 19 in Fig. 6, which each have a gripping handle protruding therefrom. Glover does not teach a vacuum fitting for removing machined debris, while Stornetta and Ko both teach such a fitting. Therefore, states the rejection, it would have been obvious to one having ordinary skill in the art to use the attachment of Stornetta and Ko with the device of Glover, to reduce the hazard to the operator. The rejection also repeats the arguments listed above for Glover and Hunt concerning the use of an aircraft skin lap router using a guide with fasteners drilled through the skin as opposed to fasteners that merely penetrate the skin.

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Applicants request the Board to reverse the rejections. Glover does not describe or suggest several limitations of the apparatus described in the present application, including at least the Claim 1 limitation of "a guide, fastened to the skin by fasteners drilled through the skin." The Office Action itself notes that Glover, in combination with Stometta and Ko, does not teach the limitations of fasteners drilled through a workpiece, as applied to independent Claims 1, 22 and 24, and previously noted for independent Claim 12. Office Action, p. 10, lines 17-18.

By the same arguments listed above for the rejections of Claim 12, the arguments in the rejection concerning the desirability of using fasteners that penetrate the skin rather than being drilled through the skin are moot, and may constitute impermissible hindsight. The references must describe or suggest all the limitations of the invention claimed in the present application. Applicants for a patent need not show that the references would have profited from the present invention or that the references do not need the present invention. Only Glover is cited in this portion of the rejection for the guide and the fasteners, and the Office Action itself admits that Glover does not describe or suggest a router or fasteners drilled through the skin. Office Action, p. 10, lines 17-20.

Glover also fails to teach or suggest other limitations of Claim 1, such as a router, as discussed above with reference to Claim 15. Since Glover, Stometta, and Ko do not describe or suggest fasteners drilled through the skin of an aircraft to hold a router guide, the rejection has not made out a prima facie case of obviousness. M.P.E.P. 2143. Independent Claim 1 therefore allowable. Claims 2, 5, and 7-11 depend from Claim 1 and are also allowable. The Board is therefore respectfully requested to reverse rejection under 35 U.S.C. § 103(a) of Claims 1, 2, 5, and 7-11.

Claim 3

Claim 3 is also rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Pat. No. 5,533,845 to John Glover ("Glover"), and further in view of Stometta and Ko. Claim 3 recites that the router is selected from the group consisting of a pneumatic router and an electric router. The rejection states that Glover specifically teaches that the tool is pneumatically operated. Office Action, p. 4, lines 6-7.

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Glover does not teach a router, Glover teaches a milling machine, as admitted in the Office Action, p. 3, line 21. A router is a different type of machine tool, as shown in another patent cited in this case, U.S. Pat. No. 5,503,203 to Ase Stornetta ("Stornetta"). Note, for instance, Fig. 1, depicting a router, and the text at col. 1, describing a router and its operation. Stornetta, col. 1, lines 18-24. The admitted router of Stornetta is vastly different from the milling machine of Glover, as shown at Fig. 1 of Glover.

The rejection under Glover offers no rationale for stating that a spindle for a milling machine is a "router." As noted above, the references cited in the rejections alone make it clear that a milling machine is not a router. Accordingly, Glover does not teach a router, and therefore does not teach an electric or a pneumatic router as required by Claim 3.

Glover does not describe or suggest at least this limitation of Claim 3, which is therefore not obvious over Glover. Therefore, the rejection does not make out a prima facie case of obviousness. M.P.E.P. 2143. The final rejection of dependent Claim 3 under 35 U.S.C. § 103(a) is error. Appellants request the Board to reverse the rejection under 35 U.S.C. § 103(a) of Claim 3 over Glover in view of Stornetta and Ko.

Claim 4

Claim 4 is also rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Pat. No. 5,533,845 to John Glover ("Glover"), and further in view of Ko and Stornetta. Claim 4 recites that the router has a speed adjustment. There is no specific rejection of Claim 4, and therefore the rejection fails to make out a prima facie case of obviousness. The final rejection of dependent Claim 4 under 35 U.S.C. § 103(a) is error. Appellants request the Board to reverse the rejection under 35 U.S.C. § 103(a) of Claim 4 over Glover in view of Stornetta and Ko.

Claims 22-25

Claims 22-25 are also rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 5,533,845 to John Glover ("Glover"), as discussed

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for Claims 12-13 and 15-21 above, and further in view of either U.S. Pat. No. 5,503,203 to Ase Stornetta ("Stornetta") or U.S. Pat. No. 3,837,383 to Kenneth Ko ("Ko"). The rejection applies Glover as first applied to Claim 12, stating that Glover teaches many limitations of the claim.

Glover does not teach or suggest an aircraft skin lap router apparatus, as recited in Claim 22, nor does Glover teach a router apparatus useful for routing sheet metal, as recited in Claim 24. Glover does not teach a guide fastened to the skin by fasteners drilled through sheetmetal or a skin, nor does Glover teach a nylon guide. Glover further does not teach or suggest a platform mounted on the guide, the platform interfacing with the guide through at least one bearing. Accordingly, the Office Action does not make out a prima facie case of obviousness, and the rejection of Claims 22 and 24 are error. Claims 23 and 25 depend from Claims 22 and 24 and are allowable because Claims 22 and 24 are allowable.

i. Glover does not teach or suggest fasteners drilled through sheetmetal or a skin

The rejection of Claim 12 over Glover, applied here to Claims 22 and 24, admits that while Glover teaches fasteners that penetrate into the workpiece, Glover is silent concerning whether fasteners are drilled through the workpiece. Office Action, p. 10, lines 16-17. This claim element requires a guide and fasteners drilled **through the** sheet metal (emphasis added). The rejection states that "through" means "extending from one surface to another." Office Action, p. 10, lines 18-19, citing Merriam-Webster's Collegiate Dictionary, 10th ed.

It makes no difference whether Glover's device would work with fasteners drilled through the workpiece, it only matters for obviousness what Glover teaches, discloses or suggests. *In re Novak*, 16 U.S.P.Q. 2043, 2044 (Fed. Cir. 1990) (unpublished opinion, stating that obviousness must be determined in light of what is taught or suggested by the prior art). Even if one were to construe the workpiece of Glover as sheet metal, Figs. 1, 4, and 16 clearly show that Glover's platform 30 is mounted to the workpiece via corresponding attachment sites 33, very thick bosses, such that fasteners through holes 32 and bosses 33 are not drilled through workpiece 10. As the rejection itself admits, Glover does not teach that the

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fasteners penetrate through the holes and bosses, and thus through a "sheet metal" or aircraft skin workpiece from one surface to the opposite surface, as required by Claims 22 and 24. Furthermore, citing Glover in this manner is impermissible hindsight, combining the present invention with a reference in order to find the claimed application obvious. *In re Deuel*, 34 U.S.P.Q.2d 1210 (Fed. Cir. 1995) (reversing rejections for obviousness because of the use of impermissible hindsight).

ii. Glover does not teach or suggest a platform mounted on the guide, the platform interfacing with the guide through at least one bearing

Claims 22 and 24 recite that there is at least one bearing mounted on the platform and interfacing with the guide. The rejection of Claims 22-25 does not specifically mention these claim limitations. The rejection of Claim 20 under Glover, above, and applied here to Claims 22 and 24, states that platform 12 has a protruding member that mates with the aforescribed guide track of the subframe, see Fig. 5, which member bears against and interfaces with said guide track. Office Action, p. 4, lines 10-12.

The rejection does not state, and Glover does not describe or suggest, that subframe 30 is a "bearing." Applicants have claimed a bearing mounted on the platform and interfacing with the guide. While not importing limitations from the specification, it is clear from Applicants' Fig. 5, numeral 66, that a bearing may be an anti-friction type rotary bearing, for the platform to interface with, so that the platform, and thus the router, can move along the guide. Glover does not suggest that subframe 30 has any antifriction or "bearing" qualities. Glover states that his machine includes "an attachment subassembly 30 which includes one or more attachment sites 32 through which subassembly 30 may be secured" to the workpiece. Glover, col. 3, lines 33-36. Subframe 30 is attached to the workpiece and will not move. Subframe 30 is an interface, but cannot be a bearing. Glover does not describe or suggest at least this limitation of Claim 22.

The rejection of Claims 22 and 24 does not make out a prima facie case of obviousness for at least these reasons. The final rejection of Claims 22 and 24 under 35 U.S.C. § 103(a) is error. Appellants request the Board to reverse the

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rejection under 35 U.S.C. § 103(a) of independent Claims 22 and 24, and dependent Claims 23 and 25, over Glover in view of Stornetta and Ko.

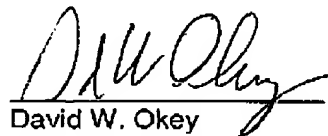
e. Claims 5-6

Claim 6, and alternatively Claim 5, are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 5,533,845 to John Glover ("Glover"), and further in view of either U.S. Pat. No. 5,503,203 to Ase Stornetta ("Stornetta") or U.S. Pat. No. 3,837,383 to Kenneth Ko ("Ko"), and further in view of U.S. Pat. No. 3,133,339 to Thomas Ribich ("Ribich"). Claims 5 and 6 are allowable because they depend from allowable Claim 1. The Examiner is respectfully requested to withdraw the rejection of Claims 5 and 6.

CONCLUSION

In view of the above remarks, Appellants submit that the claimed invention is not unpatentably obvious over the references of record, and that the Office Action has not made out a sustainable case of obviousness for Claims 1-25. Accordingly, Appellants request reversal of the rejections of Claims 1-25 under 35 U.S.C. § 103(a). The reversal of all the rejections appears to be in order and is earnestly solicited. Because the fee for filing a notice of appeal and an appeal brief was previously submitted, no fee is believed to be due.

Respectfully submitted,



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VIII. Appendix, Claims in the Application

1. (Original) An aircraft skin lap router apparatus, comprising:
a guide, fastened to the skin by fasteners drilled through the skin;
a platform, mounted on the guide;
a router having a vertical adjustment, mounted on the platform; and
a vacuum fitting, mounted on the platform, wherein an operator adjusts the router vertical adjustment for a desired depth-of-cut on the aircraft skin lap, the router cuts the skin lap, and removes debris via the vacuum fitting.
2. (Original) The apparatus of Claim 1, wherein a vertical height setting may be made within one-thousandth of an inch using the router vertical adjustment.
3. (Original) The apparatus of Claim 1, wherein the router is selected from the group consisting of a pneumatic router and an electric router.
4. (Original) The apparatus of Claim 1, wherein the router has a speed adjustment.
5. (Original) The apparatus of Claim 1, further comprising an end mill attached with the router.
6. (Original) The apparatus of Claim 5, wherein the end mill is a 0.250", three-fluted end mill.
7. (Original) The apparatus of Claim 1, further comprising grips on the router.

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8. (Original) The apparatus of Claim 1, wherein the guide is a plastic material and is formed to a uniform height and width.

9. (Original) The apparatus of Claim 8, wherein the guide is a nylon profile.

10. (Original) The apparatus of Claim 1, further comprising at least one bearing mounted on the platform and interfacing with the guide.

11. (Original) The apparatus of Claim 3, further comprising air fittings attached to the platform for receiving air from an air supply and for delivering air to a pneumatic router.

12. (Original) A sheet metal router apparatus, comprising:
a guide, fastened to the sheet metal by fasteners drilled through the sheet metal;
a platform, mounted on the guide; and
a router having a vertical adjustment, mounted on the platform, wherein an operator adjusts the router vertical adjustment for a desired depth-of-cut and moves the platform continuously along the guide to make a desired cut.

13. (Original) The apparatus of Claim 12, wherein a vertical height setting may be made within one-thousandth of an inch using the router vertical adjustment.

14. (Original) The apparatus of Claim 12, further comprising a vacuum fitting mounted on the platform.

15. (Original) The apparatus of Claim 12, wherein the router is selected from the group consisting of a pneumatic router and an electric router.

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16. (Original) The apparatus of Claim 12, wherein the router has a speed adjustment.

17. (Original) The apparatus of Claim 12, further comprising an end mill attached with the router.

18. (Original) The apparatus of Claim 17, wherein the end mill is a 0.25", three-fluted end mill.

19. (Original) The apparatus of Claim 12, wherein the guide is a plastic material formed to a uniform height and width.

20. (Original) The apparatus of Claim 12, further comprising at least one bearing mounted on the platform and interfacing with the guide.

21. (Original) The apparatus of Claim 15, further comprising air fittings attached to the platform for receiving air from an air supply and for delivering air to a pneumatic router.

22. (Original) An aircraft skin lap router apparatus, comprising:
a nylon guide, fastened to the skin by fasteners drilled through the skin;
a platform, mounted on the guide, the platform interfacing with the guide through at least one bearing;
a router having a vertical adjustment within one-thousandth of an inch, mounted on the platform, said router having at least two hand grips and a speed adjustment, and adapted to receive a source of power;
an end mill mounted removably on the router; and

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a vacuum fitting, mounted on the platform, wherein an operator adjusts the router vertical adjustment for a desired depth-of-cut on the aircraft skin lap, the router cuts the skin lap, and removes debris via the vacuum fitting.

23. (Original) The router apparatus of Claim 22, wherein the source of power is electric or pneumatic.

24. (Original) A sheet metal router apparatus, comprising:

a nylon guide, fastened to the sheetmetal by fasteners drilled through the sheetmetal;

a platform, mounted on the guide, the platform interfacing with the guide through at least one bearing;

a router having a vertical adjustment within one-thousandth of an inch, mounted on the platform, said router having at least two hand grips and a speed adjustment, and adapted to receive a source of power;

an end mill mounted removably on the router; and

a vacuum fitting, mounted on the platform, wherein an operator adjusts the router vertical adjustment for a desired depth-of-cut, moves the platform continuously along the guide to make a desired cut, and removes debris via the vacuum fitting.

25. (Original) The router apparatus of Claim 24, wherein the source of power is electric or pneumatic.